

WHAT IS CLAIMED IS:

1. A mold for manufacturing a metal-ceramic composite member by bringing a molten metal into contact with a ceramic member, comprising:
 - 5 a support portion that is provided in said mold and in which the ceramic member is placed with a face of the ceramic member to be in contact with the molten metal facing upward; and
 - a joining portion with a predetermined capacity that is provided between the face of the ceramic member being in contact with the molten metal and an inner wall of said mold and in which the molten metal is poured and filled.
2. A mold for manufacturing a metal-ceramic composite member by bringing a molten metal into contact with a ceramic member, comprising:
 - 15 a support portion provided in said mold and in which the ceramic member is placed with faces of the ceramic member to be in contact with the molten metal facing upward and downward respectively;
 - a first joining portion with a predetermined capacity of space that is provided between the face of the ceramic member being in contact with the molten metal and facing upward and an inner wall of said mold and in which the molten metal is poured and filled; and
 - 20 a second joining portion with a predetermined capacity of space that is provided between the face of the ceramic member being in contact with the molten metal and facing downward and the inner wall of said mold and in which the molten metal is poured and filled.
3. A mold for manufacturing a metal-ceramic composite member according to claim 1 or claim 2, further comprising
 - 30 a shrinkage cavity inducing portion provided adjacent to said joining portion.
4. A method for manufacturing a metal-ceramic composite member,

comprising:

pouring a predetermined amount of the molten metal into the mold according to claim 3;

thereafter, cooling the molten metal from under the mold to solidify the mold; and

inducing shrinkage cavity to be generated in the shrinkage cavity inducing portion.

5. A method for manufacturing a metal-ceramic composite member by bringing a molten metal into contact with a ceramic member, using a mold comprising:

a support portion that is provided in the mold and in which the ceramic member is placed with faces of the ceramic member to be in contact with the molten metal facing upward and downward respectively;

a first joining portion with a predetermined capacity of space that is provided between the face of the ceramic member being in contact with the molten metal and facing upward and an inner wall of the mold and in which the molten metal is poured and filled; and

a second joining portion with a predetermined capacity of space that is provided between the face of the ceramic member being in contact with the molten metal and facing downward and the inner wall of the mold and in which the molten metal is poured and filled,

wherein the molten metal is poured and filled first in the first joining portion when the molten metal is poured and filled in the first and the second joining portion.